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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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D. Ion Degeratu

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Hershkovitz & Associates, LLC  
2845 Duke Street  
Alexandria, VA 22314

EXAMINER

LIPITZ, JEFFREY BRIAN

ART UNIT

PAPER NUMBER

3769

NOTIFICATION DATE

DELIVERY MODE

01/29/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@hershkovitz.net  
patent@hershkovitz.net

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,209	<b>Applicant(s)</b> DEGERATU ET AL.	
	<b>Examiner</b> JEFFREY B. LIPITZ	<b>Art Unit</b> 3769	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

The previous objections to the drawings are withdrawn; however, new objections are made.

Applicant's amendments filed January 19, 2010 with respect to the claim objections have been fully considered and are persuasive. The objections to claims 11 and 12 have been withdrawn.

Applicant's arguments, filed January 8, 2009 with respect to the objection to the specification have been fully considered and are persuasive. The objection has been withdrawn, because the written description and the drawings disclose a fan in front of a main orifice. However, neither the drawing nor the specification alone would have been sufficient to support the limitation that "a fan is located outside of the case", since the phrase "in front of the main orifice" is not necessarily equivalent to outside the case".

Applicant's arguments/amendments with respect to the 112 rejections have been fully considered and are persuasive. The 112 rejection of claim 12 has been withdrawn.

Applicant's arguments with respect to the prior art rejections of claim 4 has been considered but is moot in view of the new grounds of rejection

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation “wherein the space from the light source to the parabolic mirror is unobstructed with elements that inhibits the convergence flux” is not supported by the written description. The fact that Figure 1 does not contain any elements between the mirror and the light source does not inherently or implicitly teach this negative limitation.

Therefore, this limitation is new matter.

Claims 6 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The engine pitch display is not described in sufficient detail to enable one of ordinary skill to make/use the invention. How does the pitch number influence the system? How does the engine’s pitch display enable one to have “permanent control of the apparatus’s functioning parameters”?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 6, 7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, there appears to be a repeated limitation in this claim. The light source bulb is mounted in a focus of the concave mirror AND is positioned directly in the path of the focal point of a parabolic mirror. These limitations are substantially the same, and clarification or cancellation of one of these two limitations is required in response to this office action. There is no antecedent basis for "the parabolic mirror" in claim 4. This element should probably be changed to concave mirror to be consistent with the rest of the claim. For the purposes of examination, the parabolic and concave mirrors are the same element.

Regarding claims 6 and 7, the "coring shutter" is disclosed in the specification as element "8" of Figure 1; however, element "8" is also referred to as the "shutter disk" (Pages 8 and 9). It is unclear how the coring shutter is different from the shutter disk recited in claim 4. Consistent terminology should be used throughout the claims to refer to particular elements. Similarly, a slit regulating device is claimed in these claims and in claim 4. It is unclear why there are duplicated elements in these claims. It is unclear how recitation of these elements further limits the scope of the invention. Furthermore, "an apparatus's object" and an "optic filter" are also repeated in these claims. Additionally, the scope of the functional recitation with respect to computer control is not supported, in the same detail, by the specification. The specification only recites that the computer controls the overall coordination of the system. The scope of the claims

Art Unit: 3769

should reflect the scope of the originally filed disclosure. Finally, it is unclear how each of the cited elements is structurally related to the others. For instance, how does the engine pitch display influences the rest of the system?

Regarding claim 9, it is unclear how the size of the orifice corresponds to the frequency of the rotating shutter disk. It is possible that the relative size of the orifice inherently corresponds to the rotational frequency of the disk or that the controller controls the size of the slit based on the rotational frequency of the disk. However, the limitation as it is currently written is unclear and not understood by one of ordinary skill in the art.

Regarding claim 13, there is no antecedent basis for the lens, the optical filter, the digital voltage modulator, the rotating disk engine, the first fan, the second fan or the engine pitch display.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehurst (5843143), in view of Yoshida et al. (5272570) hereinafter Yoshida.

Regarding claim 4, Whitehurst teaches an apparatus for biological treatments comprising a case or exterior casing (3; Column 4, Lines 1-32; Figure 1) having one wall

Art Unit: 3769

with an orifice or central tubular aperture in screw cap (13), a light source or lamp (2) that is supported in an unlabeled housing connected to electrical connection (2c), a concave mirror or reflector (2a) set on an axial bar or guide (Abstract) that must be supported by the wall of the casing (3), an optical filter or output window (11; Column 4, Lines 49-53) mounted on an objective in the orifice (Figure 1). Whitehurst also teaches a rotating shutter disk or rotary shalter disk or variable attenuator means in the form of grill (12) at the same location as the optical filter and with orifices positioned coaxially with respect to the optical filter creating the effect of a light flux (Abstract). Grill (12) has apertures or orifices that align with the focal path of the lens (10), which focuses the incident light or light flux on the central tubular aperture in screw cap (13). Whitehurst teaches that the grill is a "variable attenuator means" that is rotatable about its own axis and contains apertures graduated in size to allow more or less of the light to travel through the grill. In order for Whitehurst's invention to be functional there must be a slit control device in order to control the angle of the grill and thus the light output. Whitehurst does NOT discuss a controller for this element; however, the inherency of the element is clear and would be of ordinary skill in the art.

Whitehurst does NOT discuss the position of the light source relative to the concave mirror. Attention is directed to Yoshida who teaches the optical arrangement of positioning a light source at the focal point of a parabolic or concave mirror. This arrangement causes the light that is reflected by the mirror to be reflected parallel to an optical axis of the mirror (Column 1, Lines 34-37; Column 7, Lines 34-46; Figures 6A, 6B and 6C). There are no elements between the light source and the mirror. It would

Art Unit: 3769

have been obvious to place the light source in the focus of the mirror because doing so would collimate the light without the need for additional optical elements. This is advantageous to Whitehurst so that all of the light beams are treated equally by the filters (8 and 9) and the lens (10).

Regarding claim 8, Whitehurst and Yoshida inherently teach a light bulb and Whitehurst teaches a fan (6; Column 4, Lines 1-33; Figure 1) that ventilates the whole apparatus, which includes the light source.

Regarding claims 11 and 12, the limitation concerning the size of the orifice of the rotating shutter disk being proportional to the intensity of the flux is inherent to the apparatus of Whitehurst. If less light can pass through a particular element, then inherently and by definition the light flux is reduced, and visa versa. Furthermore, the slit regulating device can inherently modulate the light flux, and therefore is capable of lowering the flux frequency. The remaining limitations have been discussed in rejection of claim 4, *supra*.

Regarding claim 10, Whitehurst teaches providing wavelengths of 500, 540 and 570 nm (Column 6, Lines 25-30) and 350-700 nm (Column 4, Line 38), which is included in Applicant's range.

Claims 5, 6, 7, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehurst and Yoshida in view of Przybilla (WO 9213597) and Anderson et al. (US 2003/0036751 ), hereinafter Anderson.

Regarding claim 5, Whitehurst does NOT teach a digital voltage modulator. Attention, however, is directed to Anderson who teaches a digital modulator of light flux



Art Unit: 3769

(Paragraph [0206]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Przybilla to incorporate the digital modulator of Anderson, because doing so would increase precision and control over the rotation speed of the shutter. Although Whitehurst teaches a variable rotating grill or attenuator means (12), he does NOT specifically disclose an engine to effect its rotation. Attention is directed to Przybilla who teaches a motor or engine (15; Figure 1) for rotating a slit regulating device (14). It would have been obvious to use a motor or engine to generate rotation in a slit regulating device because it can generate controlled speeds of operation. Furthermore, it is common to one of ordinary skill in the art to use motors to rotate or move elements in general.

Regarding claims 6 and 7, Whitehurst teaches a control panel (4) or computer for controlling the light source and other elements of the system (Figure 1). Whitehurst does NOT teach that that a computer controls the entire apparatus' handling and coordinating as claimed. Attention, however, is directed to Anderson, who teaches a computer control system (Paragraph [0076]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the computer control system of Anderson to control the coordination and handling of the apparatus, because doing so will enable a user easily use data from other programs to automate or input illumination settings. As discussed in the 112 rejections supra, the coring shutter, slit regulating device, apparatus's object, optic filter, a digital modulator and a rotating disk engine have been addressed in the rejections to claims 1 and 5. Whitehurst does NOT teach a gradual system as claimed. However, it would have been obvious to one

Art Unit: 3769

of ordinary skill in the art to use a system which maximizes the efficiency of the light source.

Regarding claim 9, the relationship between the size of the orifice and the frequency of the rotating shutter disk is unclear, as discussed in the 112 rejections, supra. However, Whitehurst's apparatus is capable of regulating the size of the orifices, the frequency of the light pulses (Column 4, Lines 25-29) and it is well known in the art to use a motor to regulate rotational speed of any element. Therefore, the apparatus of Whitehurst, Anderson and Przybilla is capable of relating the size of the orifice to the rotational frequency of the shutter disk.

Regarding claim 13, Whitehurst teaches a lens (10) focusing the light to the optical filter and a first fan (6) for ventilating the case. Whitehurst does NOT teach a second fan for ventilating the engine and digital modulator specifically. However, it is obvious to one of ordinary skill in the art to cool elements in an electrical apparatus when those are elements develop heat during use. Overheating can reduce the lifetime of those particular elements or elements adjacent to heat-generating elements.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY B. LIPITZ whose telephone number is (571)270-5612. The examiner can normally be reached on Monday to Thursday, 10 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry M. Johnson III can be reached on (571)272-4768. The fax phone

Art Unit: 3769

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFREY B LIPITZ/  
Examiner, Art Unit 3769

/Henry M. Johnson, III/  
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Unit 3769